



## Beach Season – 2015 Annual Report

Maryland Department of the  
Environment

Maryland Department of the Environment (MDE) works with local health departments to enhance beach water quality monitoring and maintain the beach water quality public notification process in Maryland. Water quality assessment begins prior to the beach season when local health departments collect water samples from beaches and perform beach Pollution Source Surveys to ensure that there are no nearby pollution sources that may adversely impact water quality. MDE provides local health departments with a tablet based data collection application to conduct beach Pollution Source Surveys that are geo-referenced using Geographic Information System (GIS) technology.

Local health departments collect triplicate samples from each beach in their county to assess water quality by calculating an average of these three values. Beach advisories and closures are types of notifications that local health departments issue (Table 1). When water quality criteria are exceeded, local health departments issue an advisory because there is a potentially elevated health risk to swimmers. If there is a known health risk to swimmers (such as from a sewage spill), local health departments issue a beach closure. At the beginning of each beach season local health Departments identify and fix any correctable sources of bacterial contamination. Notifications are lifted when beach water quality returns to acceptable levels.

Beach notifications are communicated to the public via many ways including signs, county websites, and the Maryland Healthy Beaches website ([http://marylandhealthybeaches.org/current\\_conditions.php](http://marylandhealthybeaches.org/current_conditions.php)) that provides color-coded status reports on beaches throughout the state and daily updates on rainfall at individual. The public is advised to avoid swimming following significant rain events because potentially harmful bacteria concentrations may rise after heavy rains due to polluted storm water runoff. The Maryland Healthy Beaches website ([www.MarylandHealthyBeaches.com](http://www.MarylandHealthyBeaches.com)) and the Maryland Healthy Beaches smart phone applications available for Android (Google Play) and iPhone (App Store), provide some tips for staying healthy at the beach.

Water quality is important for the safety and health of swimmers and can deteriorate due to pollution caused by storm water runoff, animal waste, boat discharges, trash, debris, failing septic systems, sewage discharges, and even re-suspension of bacteria present in beach sediments. Sewage sources include bypasses from sewage pumping stations, combined storm water sewers, and sewage spills. Where practicable, Maryland policies are in place to minimize pollution sources and reduce the risk to swimmers. There are no



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combined storm water sewers impacting any of Maryland's beaches. Maryland has regulatory guidelines to reduce the risk of overflows from sewage pumping stations that are near beaches, including: telemetering alarm systems, standby pump units, stationary auxiliary power sources, a pump-around connection coupling facility, and a minimum two hour holding space on site. In addition, Maryland is one of the few states that require timely reporting to local health departments and MDE any time there is a sewage spill; this includes a follow-up status report on the problem and corrective actions taken within five days of the spill. During the 2015 beach season no illnesses or outbreaks associated with natural water recreation were reported.

Effective January 1, 2010, Maryland Department of the Environment prioritizes funding for septic system upgrades toward those systems that pose the greatest threat to clean waterways and drinking water. MDE also established an income-based sliding scale to ensure septic upgrade grants are fairly distributed to homeowners with the most need. There are approximately 420,000 septic systems in Maryland. Of these, 52,000 systems are located within the "Critical Area," land within 1,000 feet of tidal waters that is vital for water quality and wildlife habitat.

In 2015, Maryland Beaches were open and unrestricted 98.7% of the beach season, which is defined as the time between Memorial Day and Labor Day (Figure 1). Sewage spills accounted for zero percent of the beach days under notification, with the whole of the advisories being due to water quality criteria exceedances. The effective partnership between state and local governments provides a consistently high level of performance, especially considering that the length of notifications issued by local health departments oftentimes has more to do with delays between re-sampling events rather than a true elevated risk to swimmers. In other words, many of the beaches are monitored weekly or every other week using a fixed sampling schedule, even when a sample has exceeded the single sample maximum. As a result some beaches are not re-sampled the same week, which extends the length of time an advisory is in place. In most cases experience has shown that re-sampling as soon as possible results in fewer days under advisory. MDE encourages local health departments to resample as soon as possible following a notification, but limited county staffing and resources at some beaches prevents this from happening.

In 2012 EPA issued its 2012 Recreational Water Quality Criteria which is the latest criteria to be issued since 1986. MDE is in the process of deciding how best to incorporate these criteria into the Beaches Program. There is a fact sheet on these Criteria available at

[http://mde.maryland.gov/programs/Water/Beaches/Documents/factsheetepawgbeaches\\_jan2013rev0613.pdf](http://mde.maryland.gov/programs/Water/Beaches/Documents/factsheetepawgbeaches_jan2013rev0613.pdf).



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### Maryland Beach Notifications Update

Year	Total Number of Beaches*	Total Number of Beach Days*	Beach Days with Notifications	Percentage of Days Open
2005	209	20,482	359	98.2
2006	210	20,580	822	96.0
2007	213	20,874	690	96.7
2008	218	21,364	405	98.1
2009	210	22,050	356	98.4
2010	211	20,678	733	96.5
2011	203	19,894	439	97.8
2012	203	19,894	213	98.9
2013	194	19,012	256	98.7
2014	185	18,130	196	98.9
2015	186	19,530	262	98.7

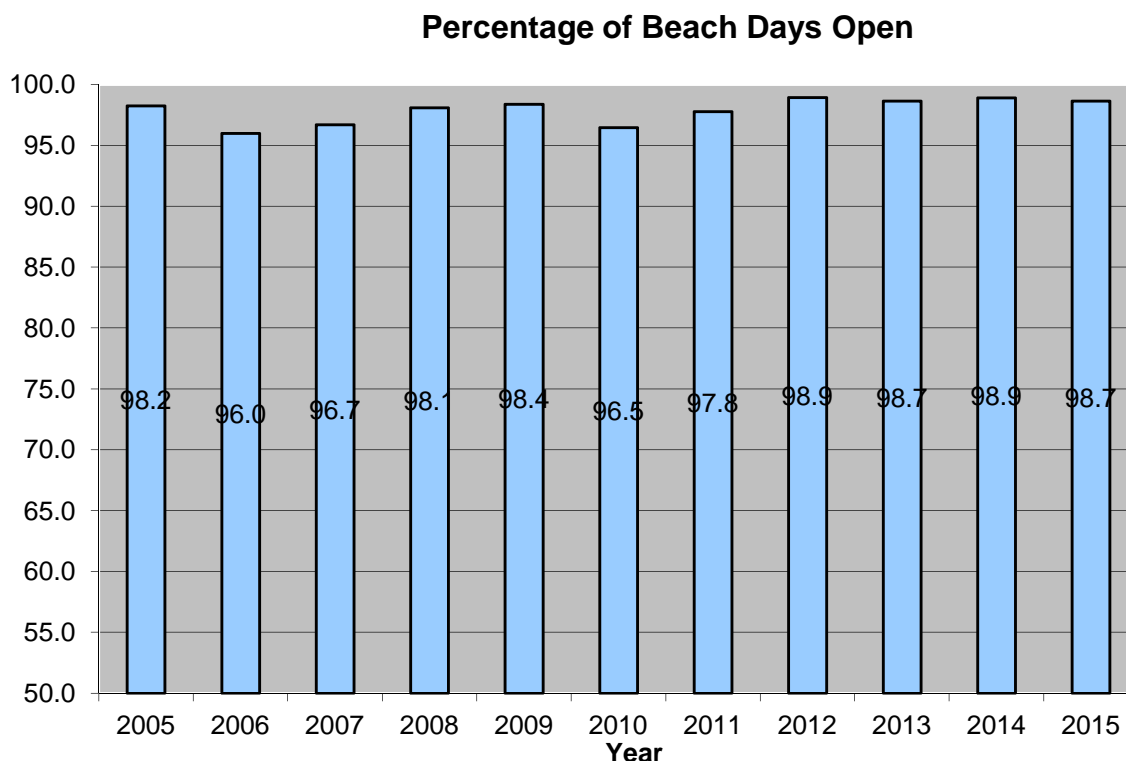
\*Beach Days = (Number of beaches)\*(Number of Days in Beach Season)

**Table 1: Total number of beaches identified by local health departments in Maryland for 2005 through 2015, the total Number of beach days that season\*, and the number of beach days where the beach was under notification that season.**



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**Figure 1: The percentage of beach days open out of the total from 2005 - 2015.**

Overall, MDE's partnership with local health departments continues to enhance beach water quality monitoring at Maryland's coastal beaches. Notification and monitoring are consistent state wide and the information is easily accessible and available to Maryland beach goers. These actions coupled with the regulatory measures and best management practices identified above ensure that Maryland citizens and visitors are able to enjoy the State's many beaches. This supports Maryland tourism and recreation industries while at the same time protecting public health and Maryland's waterways from the harmful impacts of pollution.



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